

are formed before it is possible for them to escape. The great loss thus occasioned has induced some gas manufacturers to employ large exhausters, to draw the gas rapidly from the retorts. But by the use of water gas, as specified in White's process, not only is this end attained much more effectively, but a large quantity of valuable material upon which the illuminating power depends, which would otherwise remain in the tar, is taken up and converted into valuable gas, besides other minor advantages. One of the difficulties in the generation of water gas is to obtain it free from carbonic acid. Dr. Frankland has not been able to prevent its formation entirely, and therefore proposes, as an efficient means of removing it, a solution of caustic soda, through which the gas is made to pass before entering the holder. Neither wet nor dry time are suitable for the separation of this substance from the gas. The cost of this mode of purification does not exceed 3d. per 1,000 cubic feet. The illuminating power of the hydrocarbon gas thus made, it is added, was found to be superior to that of Manchester coal gas in the relation of 100 to 88·9, or that 1,000 cubic feet of hydrocarbon gas was equal to 1,125 of Manchester coal gas. Another advantage consisted in the fact that unpurified hydrocarbon gas does not contain any ingredients which prevent its use, as in the case of the gas from coal. Dr. Frankland also stated that he had extended his experiments to the application of this process to coal, the very interesting results of which he would communicate to the society on a subsequent occasion.

South Shields.—It is proposed to extend the Sunderland water-work pipes to South Shields, a distance of seven miles, by Cleadon, Harton, and Westoe. The supply, according to the plans, would be constant, and at a pressure sufficient to raise it to the tops of the houses in Shields.

Dunstable.—The *Fife Herald* states that a gas-work, to cost between 600l. and 700l., is nearly completed in this little village. The inhabitants are principally hand-loom weavers, who had long sighed for a substitution of "the new light" for the old "weaver's lamp," and at length formed a committee, who canvassed the village and vicinity, and succeeded in collecting the necessary shares, in which they were materially aided by a neighbouring proprietor, Mr. O. Tyndal Bruce, of Falkland House, who will no doubt benefit by the improvement as well as his humbler neighbours, who have not only the merit of establishing a gas-work but also "a spacious and handsome hall, in which they assemble for improvement," and which was erected some years since. Such efforts merit note as an example of laudable ambition, and may show to thousands of villages throughout the country what can be done with industry and resolution.

St. Neots (Hants).—Mr. Bower, of St. Neots, says the *Manchester Courier*, "has constructed a patented apparatus for making gas from coal, so small as to be adapted for private houses, inns, and other places where ten or fewer lights may be required. It is inclosed in an iron frame, occupying but little space, and may be managed by the errand-boy. Beautiful gas is said to be made by this plan, at the paper manufactories of Messrs. Tongood, Cambridge, at a cost of 1s. 6d. per 1,000 cubic feet. The patent consists in getting hydrogen gas from steam (generated by the same fire that heats the retort), and in converting that vapour into gas, which otherwise would be converted into tar."

Leighton Buzzard.—Some weeks ago a meeting of the inhabitants was held in the Town-hall, for the purpose of considering what steps should be taken to secure a reduction in the price of gas. All the consumers (with the exception of two, who are shareholders) pay 10s. per 1,000 cubic feet. Several resolutions, says the *Bedford Times*, "were passed unanimously, the last being in effect, that application be made to Mr. Brothers, the contractor, to ascertain if he would consent to reduce the price of gas, suitable to the present time, and agreeably to the cost in other towns. It was very sensibly pointed out that if a reasonable reduction were made, many inha-

bitants, who at present burn candles or oil, would be induced to patronise the gas company, and thereby a more liberal return for the capital invested would be effected." The contractor did not condescend to notice the application till urged to do so, when a formal acknowledgment merely of receipt of the communications was sent. Further steps are in contemplation. Dunstable is supplied by the same contractor, and much dissatisfaction also prevails in that town. Offers have been made by other companies, and new arrangements are likely to be gone into.

Ryde.—A report has been made on a projected water supply for the town of Ryde. It is intended by it that the water should be obtained from Alverstun, on the south of Ashby-down. The length of the river at Niton to Alverstun is about eight miles: the valley through which it flows is purely agricultural. The supply is available without any engineering difficulties: it is only necessary to raise the water to the top of the down. The report concluded by urging the necessity of the Health of Towns Act.

Books.

The British Almanac and Companion, 1852. London: Charles Knight.

This excellent work maintains its reputation and will be found useful by all, we might almost say indispensable. The "Companion" contains articles on the Invention of Fluxions, the Great Exhibition, the Census, County Courts, Railways, Public Debts, Public and Architectural Improvements, and abstracts of Important Public Acts passed during the year.

The section "Public Improvements" occupies 24 pages, and has eight illustrations. It is but weakly written. We give the writer's notions regarding modern churches, as a bettermost specimen:—

"Though there be plenty of Gothic precedent, in every period of the style, for making side aisles as high as the centre, as in Austin Friars' and the Temple, London, and still older churches in Germany, you will find our imitators, when there are to be side galleries, always choosing some model with low sides (cut lower to suit modern parsimony), and cramming the two flats of worshippers into about half the height and breathing-room allowed to the single floor of them in the centre; and this even though the additional height of the latter be an utterly useless affectation, the "clear story" (or lantern story) admitting no light. And though this generally brings the heads of the people in the galleries behind the spandril walls of the arches (which it never seems to occur to them to lighten by a single perforation)—though in such cases we have ample precedent, even in the high "lancet" style, for the use of low depressed arches (as in the Salisbury triforium galleries) to bring their springing above the heads of the occupants: our moderns invariably choose arches of the highest proportion. But the climax is perhaps seen in the present way of supporting such galleries. Though common sense would seem to suggest that the same pillars which bear the gallery could be continued up to bear the roof, as at William the Conqueror's chapel in the Tower, and every succeeding church with galleries and not roofed with one span, down to 1840; and though there is ample "precedent" for every possible distance of the pillars from the walls, from 2 to 20 feet, our moderns now always put them a little further out than the gallery is to project; and (though they be, as we have said, more massive and far less loaded than in old churches) support the gallery (which, perhaps by way of contrast to the Gothic lightness and elegance, they now assimilate as near as they can in style, to the tubular bridge) on a distinct row of pillars, or rather posts, a foot or two behind the others.

For what purpose were these structures built? We believe the question would sorely puzzle any society of antiquaries that should alight on them with no historical clue. Is there evidence in them of any other object than to look pretty and mediæval?

We have not gone into their looks. If we had, we should find it as difficult to discover wherein they follow the precedents of mediæval æsthetics as of mediæval common sense. In mediæval times, as well as all others, there was an instinctive sense of the propriety of making temples (if not larger altogether) bolder in scale, or size of parts, than the neighbouring secular buildings; but in our towns, where the latter have been constantly growing and

the former dwindling in total magnitude till their relations have been just reversed, we seem to aim at making the contrast more glaring by repeating needlessly in the scale of parts what is unavoidable in the whole. Our designers have hard work indeed to make the shell that holds but one church, appear a cluster of fragments, and members diminutive as those of cottage work, but they succeed perfectly. In details, too, the mediæval church builders plainly aimed at as much boldness as their small mechanical appliances would permit, only turning an arch in several orders of stones, or a pillar in several shafts, because they could not make them in fewer. But we who use great blocks, cut each to give the appearance of several narrow arch-rings or several little shafts; and by diminishing all details in proportion to the lessening of general scale, seem to aim, among our swollen town architecture, at distinguishing the temple by a character of village or rather toy-like diminutiveness."

The "En Commandite," "Anonyme," and "En Nom Collectif" Partnerships. Extracted from the French Code of Commerce (articles 15 to 64), and translated into English; together with an Appendix illustrating the liabilities of Partners under the French and English Systems. By FREDERICK M. HAMBER. Eppingham Wilson, Royal Exchange, London. 1852.

SINCE we first drew the attention of our readers to this important subject, the creation of several important companies in London under the French law of partnerships, it appears, and recent discussions in the Court of Bankruptcy on the subject, have occasioned an almost universal inquiry in the mercantile world as to what the system really is; and as few comparatively know anything about it, Mr. Hamber, feeling, to a degree, convinced of the practicability and probability of the introduction, into our system, of the partnership laws of our continental neighbours, has thought it worth while here to submit to the public a copy of such part of the original French code of commerce as relates to the subject, together with such explanatory notes as suggested themselves. The whole extract is lucid and simple, and comes within the compass of a very few pages. An appendix treats of the consequences of limited partnerships under our present laws, and points out what is necessary to their full and safe establishment.

The Family Almanack and Educational Register for the Year of our Lord 1852. To be published annually. Parker, Strand.

THE information given in this almanac is very varied. Besides the usual contents of an almanac, it contains a valuable register of educational establishments in England, Scotland, and Ireland, which the publishers are anxious even to extend, and accordingly invite particulars, although the register already occupies upwards of two hundred pages. There is also a list of the universities, with various details; and of the colleges connected with the Church of England, the various Dissenters, and the Roman Catholics. The educational register contains an account of the scholarships and exhibitions attached to schools, &c., and at the end is a list of national educational establishments in the United States of America.

MUSEUM OF PRACTICAL GEOLOGY.
GOVERNMENT SCHOOL OF MINES AND OF SCIENCE
APPLIED TO THE ARTS.

Inaugural Discourse at the opening of the School, 6th November, 1851. By Sir H. DE LA BECHE, C.B., F.R.S.

On the National Importance of studying Abstract Science, with a View to the healthy Progress of Industry (being an introductory Lecture to the Course of Chemistry, Session 1851—1852). By LYON PLAYFAIR, C.B., F.R.S.

The Relations of Natural History to Geology and the Arts (a Lecture introductory to the Course to be delivered during the Session 1851—1852). By EDWARD FORBES, F.R.S.

On the Importance of cultivating Habits of Observation (being the introductory Lecture to the Course on Mechanical Science, Session 1851—1852). By ROBERT HUNT, Keeper of Mining Records.

THESE brief but excellent discourses,—some of which we have already quoted,—if they are